

HDF Product Designer 1.3.0

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Introduction

HDF Product Designer (HPD) helps data producers design conventional HDF5 products easily and generate consistently interoperable data products by utilizing best practices and standards if they exist in their data user communities. Conventions are defined using the powerful [CLIPS](#) expert system and designs can be re-used across product suites.

Key goals this application strives to fulfill:

- Facilitate creation of interoperable and standards-compliant data products in HDF5 as early as possible in the project development process.
- Support multiple computing platforms without requiring the full software stack of development tools and libraries installed.
- Easy and intuitive editing (create, update, move, copy, delete) of HDF5 objects.
- Collaborative approach to product design (project/team/organization-wide).
- Incorporation of best practices and standards from targeted data user communities.
- Integration of compliance and interoperability tests into the design workflow.
- Content import from existing files.
- Export of designs as HDF5 files, HDF5/JSON, or as source code in several programming languages.

The Hierarchical Data Format ([HDF5](#)) provides a flexible container that supports groups and datasets, each of which can have attributes. In many ways, HDF5 is similar to a directory structure in a file and, like directory structures, the same data can be structured and annotated in many ways. This flexibility empowers HDF5 users to arrange data in ways that make sense to them. However, it can make it difficult to share data as users, and tools, must understand the structure and the properties of data in order to use and understand it.

Many communities have successfully addressed this problem by creating conventional structures and annotations for data in HDF5. This approach depends on data files (e.g., products) that carefully follow these conventions. In some cases, designing and writing those files can be challenging or the user creating the product may be driven by local needs that lead to deviations from the conventions. Unfortunately, even small deviations can cause problems for downstream tools and future users.

What is a *HDF5 product* in the context of this software? HDF5 product is the content that should exist in a single HDF5 file. This content is defined by the HDF5 objects (groups, attributes, datasets), their names, the hierarchies they create (links and references), and attribute values. Dataset values are typically not stored in such files (unless they qualify as *metadata*) thus this software cannot be used as a data server. Once completed, a HDF5 product is replicated in many files (commonly on the order of tens of thousands or more) and filled with real data.

What's New

The latest version 1.3.0 of the HDF Product Designer was released on January 1, 2016. Here are a few highlights:

- CDL importer is fixed.
- OPeNDAP DMR importer is added.
- Variable-length string type is added.
- Product documentation generation in Microsoft Word format is added.

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First time users:

NASA Earthdata account is required to use this application. Please [register](#) and then check the [user guide](#) on how to allow HDF Product Designer to access your Earthdata user information.

The Windows platform binaries require [Microsoft Visual C++ 2008 Redistributable Package \(x86\)](#) if your system doesn't already have one.

Platform	Binary	SHA256 Checksum
Windows 7/8/10 Setup	HPD_setup.exe	255f7296f7fa3c2e780366d2dcbe23ea1966a828a9c88d2cf198ac6f4c71
Windows 7/8/10	HPD.exe	9d13c47642c1407d0e98596cf9c0d237e4bce91a4626c3c1c468b5c2c5
Mac OS X (Mavericks or newer)	HPD.dmg	8f1410c79139222331f186a1f0d07c594af3f9c1d679c8bd3fdaad6a9a26
Linux 2.6 (x86_64)	HPD	035a6f241bc19930340e2e1e22c4c9e5a73c1aa6fce0f62006db0e84ef5

User Guide

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